

Delphinium calthifolium (Ranunculaceae), a New Species from Sichuan, China

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ABSTRACT. *Delphinium calthifolium* Q. E. Yang & Y. Luo, a new species of Ranunculaceae from Beichuan County, Sichuan Province, is described and illustrated. The new species is distinguished by its undivided, orbicular-cordate or broadly ovate-cordate leaves and very narrowly subulate-cylindric spur of the upper sepal. It is perhaps related to *D. delavayi* Franchet by its blue staminodes, with bifid, ventrally sparsely yellowish barbate limb, and its transversely undulate seed surface architecture of minute scales.

Key words: China, *Delphinium*, Ranunculaceae.

In the course of examining specimens of Ranunculaceae in the herbarium of the Chengdu Institute of Biology (CDBI), Chinese Academy of Sciences, the following new species of the genus *Delphinium* L. was discovered.

Delphinium calthifolium Q. E. Yang & Y. Luo, sp. nov. TYPE: China. Sichuan: Beichuan County, Badi District, Xikou, forest, 2300 m, Sep. 1984 (fl, fr), C. L. Tang et al. 647 (holotype, CDBI; isotype, CDBI). Figure 1.

Herba perennis; caule cum inflorescentia 25–40 cm alto, densiuscule patenterque albido-hirtello, simplice, gracili. Folium basale 1; petiolo ca. 13 cm longo basi paulo dilatato; lamina indivisa, orbiculari-cordata vel late ovato-cordata, ca. 7 cm longa, ca. 6 cm lata, utrinque glabra, margine apiculato-crenata, apice acuminata. Folium caulinum 1; petiolo 1–5 cm longo; lamina ei folii basalis simili, raro minore et triloba, utrinque glabra vel supra sparse albido-hirtella. Inflorescentia racemosa, laxa, 3- ad 6-flo-
ra, 5–12 cm longa; rhachide adpresse hirtella; bracteis lanceolatis vel subulatis, integris, dense adpresse hirtellis, 0.5–1.0 cm longis, infimis interdum trilobis et majoribus; pedicellis divaricatis, 2–5 cm longis, adpresse hirtellis, prope medium 2-bracteolatis, bracteolis lanceolatis, 0.2–0.5 cm longis, dense hirtellis. Flores subhorizontales, ca. 3 cm longi; sepalo superiore late ovato, calcari tenuissime subulato-cylindrico, ca. 2.5 cm longo basi ca. 3 mm crasso paulo recurvato, extus pubescente intus glabro, lateralibus late ellipticis, ca. 12 mm longis, ca. 7 mm latis, inferioribus ellipticis, ca. 13 mm longis, ca. 5 mm latis; petalis caeruleis, glabris, apice acutis; staminodiis caeruleis, limbo ovato bifido ca. 7 mm longo, adaxialiter sparse flavido-barbato, margine sparse ciliato, ungue ca. 5 mm longo,

glabro; staminibus numerosis, glabris, filamentis integris; ovariis 2 vel 3, glabris. Folliculi seminibus ellipsoideis, transversaliter undulato-lamellato-squamulosis.

Herbs perennial. Stem simple, slender, together with inflorescence 25–40 cm tall, densely spreading white hirtellous. Basal leaf 1; petiole ca. 13 cm, base slightly dilated; leaf blade undivided, orbicular-cordate or broadly ovate-cordate, ca. 7 × 6 cm, glabrous, margin apiculate crenate, apex acuminate. Cauline leaf 1; petiole 1–5 cm; leaf blade similar to basal one in shape, rarely smaller and trilobate, glabrous on both surfaces or sparsely whitish hirtellous adaxially. Inflorescence racemose, lax, 5–12 cm, 3- to 6-flowered; rachis appressed hirtellous; bracts lanceolate or subulate, undivided, 0.5–1.0 cm, densely appressed hirtellous, lowermost bract sometimes trilobate and larger. Flowers subhorizontal, ca. 3 cm; pedicel divaricate, 2–5 cm, appressed hirtellous, 2-bracteolate near middle; bracteoles lanceolate, 0.2–0.5 cm, densely hirtellous. Sepals blue; upper sepal broadly ovate; spur very narrowly subulate-cylindric, slightly downcurved, ca. 2.5 cm × ca. 3 mm thick at base, pubescent outside, glabrous inside; lateral sepals broadly elliptic, ca. 12 × 7 mm; lower sepals elliptic, ca. 13 × 5 mm. Petals blue, glabrous, apex acute. Staminodes blue; limb ovate, bifid, ca. 7 mm, ventrally sparsely yellowish barbate, margin sparsely ciliate; claw ca. 5 mm, glabrous. Stamens numerous, glabrous; filaments entire. Ovaries 2 or 3, glabrous. Seeds ellipsoid, transversely undulate lamellar squamulose.

Habitat and distribution. *Delphinium calthifolium* is currently known only from the type gathering, made in forest at 2300 m in Beichuan County in northern Sichuan Province. The type locality is not easily accessible and was probably never carefully botanized before the new species was collected in 1984.

Delphinium calthifolium is a remarkable species in the genus because of its undivided and orbicular-cordate or broadly ovate-cordate leaf blades as well as the very narrowly subulate-cylindric spur of the upper sepal. Staminodes are blue with a bifid,

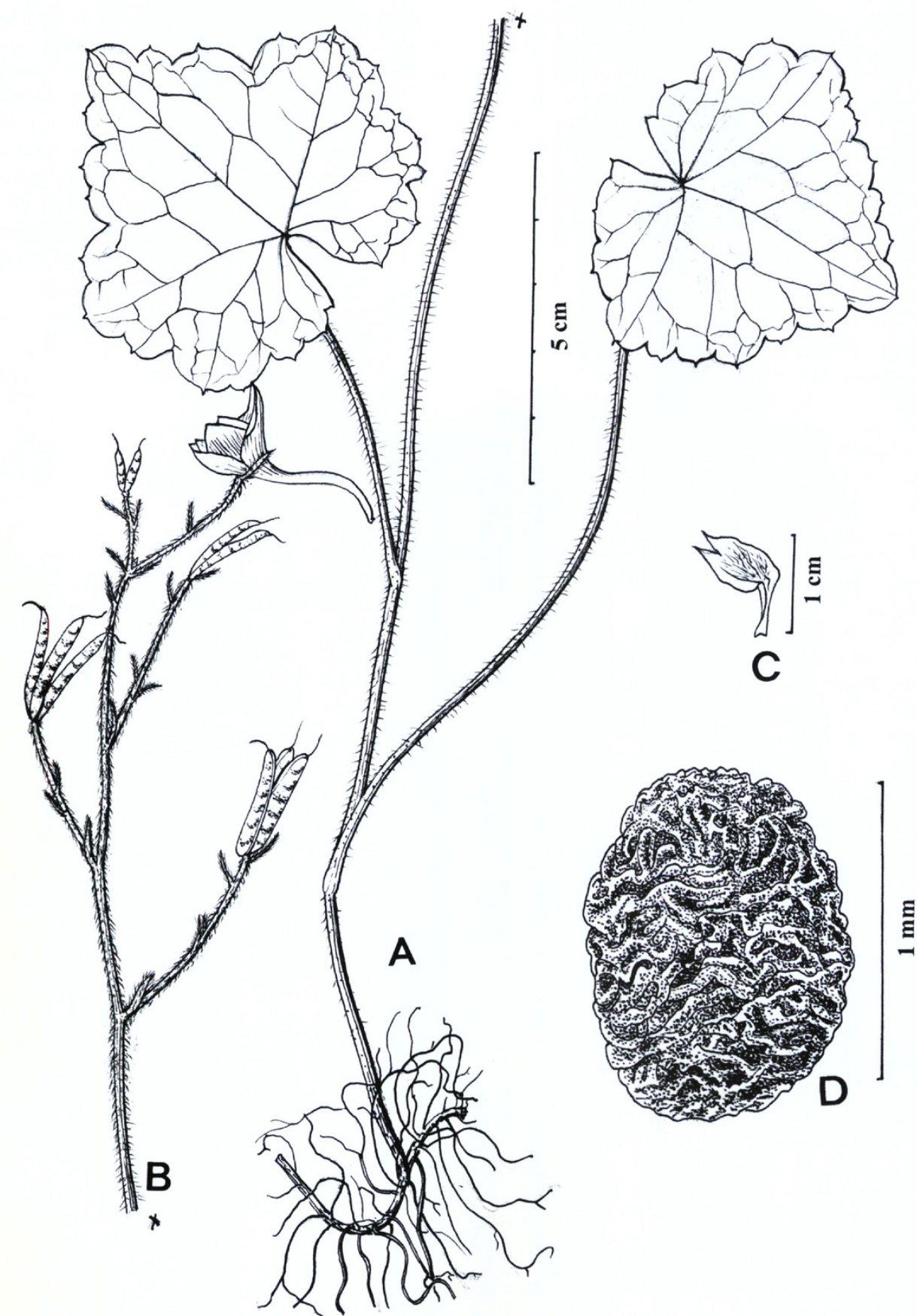


Figure 1. *Delphinium calthifolium* Q. E. Yang & Y. Luo. —A, B. Habit. —C. Staminode. —D. Seed. Drawn from the type gathering, C. L. Tang et al. 647 (CDBI).

sparsely yellowish barbate limb; seed surfaces are remarkable for their transversely undulate surface architecture of minute scales. From these features of staminodes and seeds, this species may be most closely related to *D. delavayi* Franchet in *D.* subg. *Delphinastrum* (DC.) Petermann sect. *Elatopsis* Huth ser. *Pogonantha* W. T. Wang. The specific epithet refers to the similarity of the undivided, cordate leaves to those of *Caltha* L., another genus of Ranunculaceae.

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